

Modified Wolman Pebble Count

The composition of the streambed and banks is a good indicator of changes in stream character, channel form, hydraulics, erosion rates, and sediment supply. A pebble count gives a quantitative description of the bed material.

Pebble counts should be performed at permanent cross sections within each reach of the project. Each pebble count consists of 100 counts from left bankfull to right bankfull. Follow the basic steps for the Modified Wolman Pebble Count (Rosgen, 1996). Perform count at each of the reaches along the stream channel. Measure a minimum of 100 particles at a permanent cross section to obtain a valid count. Use a tally sheet to record the count. Data will be collected once a year for at least five (5) years. Pebble counts should be plotted over previous year(s) for comparison.

Success Criteria

Judgments on success or failure of restoration activities using this data will be subjective. It is expected that there will be some minimal changes in the cross sections, profile and/or substrate composition. Changes that may occur during the monitoring period will be evaluated to determine if they represent a movement toward a more unstable condition or represent an increase in stability.

Reference Photographs

Locations of the photograph points should be established at distinguishing points along stream, including in-stream structures.

The order of photos taken is taken from upstream to downstream points along the stream corridor. Each photo point should be established and either marked in field with a wooden stake or referenced by cross-section or stream feature/structure (i.e. rock vane). All photo points should be located on the Plan View Drawings. For future reference, refer to and Plan View Drawings for location of photo points.

Photographs should be taken standing at the approximate location of established photo point, cross section location, and/or referenced stream feature/structure. Photographs are taken throughout the monitoring period. Photos should be compared to previous year(s) photos to evaluate vegetative growth along the stream corridor of the restoration site and channel stability. All follow up monitoring photos should be taken at approximately the same location as in the initial photo point locations as established in this report. This aspect of monitoring will last for at least five (5) years.

Photographs will be used to subjectively evaluate channel aggradation or degradation, bank erosion, success of riparian vegetation and effectiveness of in-stream structures and erosion control measures. Photos will indicate the presence or absence of developing bars within the channel or an excessive alteration in channel depth or width. Photos will also indicate the presence of any excessive bank erosion or continuing degradation of the bank over time. The series of photos over time should indicate successional maturation of riparian vegetation.